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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,428	12/31/2003	Derek J. Daw	PA094-US	1761
27405	7590	07/13/2004	EXAMINER	
THEROX, INC. 2400 MICHELSON DRIVE IRVINE, CA 92612			RAEVIS, ROBERT R	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application N .	Applicant(s)	
	10/750,428	DAW ET AL.	
	Examiner	Art Unit	
	Robert R. Raevis	2856	<i>aw</i>

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,9,11-15 and 17-28 is/are rejected.
- 7) ☒ Claim(s) 6,7,10 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12-31-03 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12-31-03</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

### DETAILED ACTION

Claims 13 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

. As to claim 13, "the connecting device" lacks antecedent basis.

As to claim 9, "the lumen" lacks antecedent basis.

As to claim 2, "elevation" (line 2) to - - evaluation - - .

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,11-13,3-5,8,9,14,15,17-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Gilcher et al or Natwick et al, and further in view of Kline-Schoder et al.

Gilcher (col. 4, lines 35-45) and Natwick et al (col. 2, lines 5-10) teach that bubble detectors may be calibrated to respond to particular size; but do not provide particulars of calibration device to provide a standard.

As to claims 1,3,4,14,15,18,22, it would have been obvious to employ Kline's system of Figure 13 to provide a calibration reference for either Gilcher or Natwick because Kline teaches that a system employing conduit 12, peristaltic pump 118, and bubble forming device ("GLASS TUBE" and "WATER JET") will produce bubbles having a particular size and number for testing.

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As to claim 17, use of compressed air in Klein is suggestive of use of an air pump to allow for use of environmental air as a source.

As to claims 2,11, note (col. 16, lines 13-17) that Kline refers to use of a second sensor to test a first.

As to claims 12,13, it would have been obvious to record bubble sensor data for subsequent analysis. In addition, note Kline's camera type measuring device (col. 16, line 15) that is used to confirm measurements of an UT instrument.

As to claims 5,8, note the Kline employs a block that holds the "GLASS TUBE".

As to claims 9,19, if the "WATER TANK" has no lid, the open top provides for damping between the pump 118 and bubbles exiting "GLASS TUBE". In the alternative, if there is a sealed lid, there is gas in the upper portion of the "TANK" which provides damping.

As to claims 20,21, note that Kline employs a UT measurement (col. 16, line 14), and those UT measurements are confirmed with video microscopy. UT measurements employ many signals, both transmitting and receiving.

As to claim 23, calibration requires comparing. As to claims 24,28, particle detectors are known to calibration factors to calculate a final size, suggestive of calibrating by determining such a factor.

As to claim 25, note the various flows on col. 16, lines 10-13 of Kline.

As to claims 26,27, note that bubble size and number are controlled on col. 16, lines 4-7 of Kline.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Leon (slidably?) locates a tube 36 in a seal 42 to provide bubbles.

Stelling et al rod 19 slides, but the bubbles are of the type that separate liquid portions in a fluid line.

Sohn et al teaches a bubble generator.

Claims 6,7,10,16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert R. Raevis whose telephone number is 571-272-2204. The examiner can normally be reached on Monday to Friday from 7am to 4pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Robert R. Raevis*  
RAEVIS